



CHEMICAL PRODUCT SAFETY DATA SHEET

Prepared in accordance with GB/T 16483 and GB/T 17519.

MATERION

Product name: Nickel Iron Targets

Issue date: 12-04-2019

Revision date: 08-23-2021

Version #: 02

SDS No: G38

SECTION 1 Chemical product and company identification

Chinese name of chemical	镍铁目标	
English name of chemical	Nickel Iron Targets	
Manufacturer/Supplier	Materion Advanced Materials	
Address	6070 Parkland Boulevard Mayfield Heights, OH 44124 United States	
Contact person	Theodore Knudson	
Telephone	EH&S	1.216.383.4019
e-mail	ehs@materion.com	
Emergency telephone number	See Section 16.	
Issue date	12-04-2019	
Revision date	08-23-2021	
Supersedes date	12-04-2019	
SDS No	G38	

SECTION 2 Hazards identification

Emergency overview	May cause an allergic skin reaction. Suspected of causing cancer. May cause irritation to the respiratory system. Causes damage to organs through prolonged or repeated exposure.
--------------------	---

GHS hazard categories									
Physical hazards	Not classified.								
Health hazards	<table> <tr> <td>Sensitization, skin</td> <td>Category 1</td> </tr> <tr> <td>Carcinogenicity</td> <td>Category 2</td> </tr> <tr> <td>Specific target organ toxicity, single exposure</td> <td>Category 3 respiratory tract irritation</td> </tr> <tr> <td>Specific target organ toxicity, repeated exposure (inhalation)</td> <td>Category 1 (Respiratory system)</td> </tr> </table>	Sensitization, skin	Category 1	Carcinogenicity	Category 2	Specific target organ toxicity, single exposure	Category 3 respiratory tract irritation	Specific target organ toxicity, repeated exposure (inhalation)	Category 1 (Respiratory system)
Sensitization, skin	Category 1								
Carcinogenicity	Category 2								
Specific target organ toxicity, single exposure	Category 3 respiratory tract irritation								
Specific target organ toxicity, repeated exposure (inhalation)	Category 1 (Respiratory system)								
Environmental hazards	Not classified.								

Label elements

Pictograms



Signal word: Danger

Hazard statement

H317	May cause an allergic skin reaction.
H351	Suspected of causing cancer.
H335	May cause respiratory irritation.
H372	Causes damage to organs (respiratory system) through prolonged or repeated exposure by inhalation.

Precautionary statement

Prevention

P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.

P260	Do not breathe dust/fume/gas/mist/vapors/spray.
P264	Wash thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P271	Use only outdoors or in a well-ventilated area.
P272	Contaminated work clothing should not be allowed out of the workplace.
P280	Wear protective gloves/protective clothing/eye protection/face protection.

Response

P302 + P350	If on skin: Wash with plenty of water.
P304 + P340	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P308 + P313	If exposed or concerned: Get medical advice/attention.
P362 + P364	Take off contaminated clothing and wash it before reuse.

Storage

P403 + P233	Store in a well-ventilated place. Keep container tightly closed.
P405	Store locked up.

Disposal

P501	Dispose of contents/container in accordance with local/regional/national/international regulations.
------	---

Physical and chemical hazards

The product is stable and non-reactive under normal conditions of use, storage and transport. No unusual fire or explosion hazards noted.

Health hazards

Causes damage to organs through prolonged or repeated exposure by inhalation. May cause irritation to the respiratory system. Prolonged inhalation may be harmful. May cause an allergic skin reaction.

Environmental hazards

The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Supplemental information

For further information, please contact the Product Stewardship Department at +1.216.383.4019.

SECTION 3 Composition/information on ingredients

Substance/mixture	Mixture	Concentration (%)	CAS Number
镍		75 - 85	7440-02-0
Nickel			
铁		15 - 25	7439-89-6
Iron			

SECTION 4 First aid measures

Inhalation	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a poison center or doctor/physician if you feel unwell.
Skin contact	Wash off with soap and water. Get medical attention if irritation develops and persists.
Eye contact	Rinse with water. Get medical attention if irritation develops and persists.
Ingestion	Rinse mouth. Get medical attention if symptoms occur.
Most important symptoms and health effects	May cause an allergic skin reaction.
Personal protection for first-aid responders	If you feel unwell, seek medical advice (show the label where possible).
Notes to physician	Treat symptomatically.

SECTION 5 Fire-fighting measures

Extinguishing media	Water Spray or Fog. Powder. Dry sand.
Extinguishing media to avoid	Carbon dioxide (CO2).
Specific hazards	No unusual fire or explosion hazards noted.
Special fire fighting procedures	Move containers from fire area if you can do so without risk.
Protection of fire-fighters	Wear suitable protective equipment.

General fire hazards	No unusual fire or explosion hazards noted.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.

SECTION 6 Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel	Keep unnecessary personnel away. Wear appropriate protective equipment and clothing during clean-up. For personal protection, see section 8 of the SDS.
For emergency responders	Use personal protection recommended in Section 8 of the SDS.
Environmental precautions	Avoid discharge into drains, water courses or onto the ground.
Clean-up methods and materials and containment measures	This product is miscible in water. Stop the flow of material, if this is without risk. For waste disposal, see section 13 of the SDS.
Prevention of secondary hazards	Not available.

SECTION 7 Handling and storage

Handling	Do not handle until all safety precautions have been read and understood. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Observe good industrial hygiene practices.
Storage	Store locked up. Store away from incompatible materials (see Section 10 of the SDS).

SECTION 8 Exposure controls/personal protection

Exposure limits

China OELs. Occupational Exposure Limits for Hazardous Agents in the Workplace, Chemical Hazardous Agents (GBZ 2.1-2007)

Material	Type	Value
Nickel Iron Targets	PC-TWA	1 mg/m ³
Components	Type	Value
Nickel (CAS 7440-02-0)	PC-TWA	1 mg/m ³

Biological limit values	No biological exposure limits noted for the ingredient(s).
Monitoring methods	Follow standard monitoring procedures.
Engineering measures	Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.
Personal protective equipment	
Respiratory protection	In case of insufficient ventilation, wear suitable respiratory equipment.
Hand protection	Wear gloves to prevent metal cuts and skin abrasions during handling.
Eye protection	Wear safety glasses with side shields (or goggles).
Skin and body protection	Use personal protective equipment as required.
Hygiene measures	Observe any medical surveillance requirements. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Contaminated work clothing should not be allowed out of the workplace.

SECTION 9 Physical and chemical properties

Appearance

Physical state	Solid.
Form	Solid.
Color	Grey metallic.
Odor	None.
Odor threshold	Not applicable.
pH	Not applicable.

Melting point/freezing point	2651 °F (1455 °C) estimated / Not applicable.
Boiling point, initial boiling point, and boiling range	Not applicable.
Flash point	Not applicable.
Flammability limit - lower (%)	Not applicable.
Flammability limit - upper (%)	Not applicable.
Explosive limit - lower (%)	Not applicable.
Explosive limit - lower (%) temperature	Not applicable.
Explosive limit - upper (%)	Not applicable.
Explosive limit - upper (%) temperature	Not applicable.
Vapor pressure	Not applicable.
Vapor density	Not applicable.
Relative density	Not applicable.
Density	8.90 g/cm ³ estimated
Solubility(ies)	
Solubility (water)	Not applicable.
Partition coefficient (n-octanol/water)	Not applicable.
Auto-ignition temperature	Not applicable.
Decomposition temperature	Not applicable.
Evaporation rate	Not applicable.
Flammability (solid, gas)	None known.
Other data	
Explosive properties	Not explosive.
Oxidizing properties	Not oxidizing.
Viscosity	Not applicable.

SECTION 10 Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Stability	Material is stable under normal conditions.
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
Conditions to avoid	Contact with incompatible materials.
Incompatible materials	Strong acids.
Hazardous decomposition products	No hazardous decomposition products are known.

SECTION 11 Toxicological information

Acute toxicity	Not known.
Routes of exposure	Inhalation. Skin contact.
Symptoms	May cause respiratory irritation. May cause an allergic skin reaction.
Skin corrosion/irritation	May cause skin irritation.
Serious eye damage/eye irritation	Not likely, due to the form of the product.
Respiratory or skin sensitization	
Respiratory sensitization	Not a respiratory sensitizer.
Skin sensitizer	May cause an allergic skin reaction.
Germ cell mutagenicity	Not classified.

Carcinogenicity	Suspected of causing cancer.
China OELs for hazardous agents in the workplace: Carcinogen Category	
NICKEL METAL (CAS 7440-02-0)	Possible human carcinogen.
IARC Monographs. Overall Evaluation of Carcinogenicity	
Nickel (CAS 7440-02-0)	2B Possibly carcinogenic to humans.
Toxic to reproduction	Not classified.
Specific target organ toxicity following single exposure	Causes damage to organs.
Specific target organ toxicity following repeated exposure	Not available.
Aspiration hazard	Not an aspiration hazard.
Chronic effects	Prolonged inhalation may be harmful. Causes damage to organs through prolonged or repeated exposure. Prolonged exposure may cause chronic effects.

SECTION 12 Ecological information

Ecotoxicological data

Product	Species	Test Results
Nickel Iron Targets		
Aquatic		
<i>Acute</i>		
Fish	LC50	0.0706 mg/l, 4 days estimated
Components	Species	Test Results

Nickel (CAS 7440-02-0)

Aquatic*Acute*

Fish	LC50	Rainbow trout,donaldson trout (Oncorhynchus mykiss)	0.06 mg/l, 4 days
------	------	--	-------------------

Ecotoxicity	The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.
Persistence and degradability	No data is available on the degradability of any ingredients in the mixture.
Bioaccumulation	No data available.
Mobility in soil	The product is insoluble in water.
Other hazardous effects	No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

SECTION 13 Disposal considerations

Residual waste	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
Contaminated packaging	Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.
Local disposal regulations	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Dispose of contents/container in accordance with local/regional/national/international regulations.

SECTION 14 Transport information

CNDG

UN number	UN3178
UN proper shipping name	FLAMMABLE SOLID, INORGANIC, N.O.S.
Transport hazard class(es)	
Class	4.1
Subsidiary risk	-
Packing group	III

Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

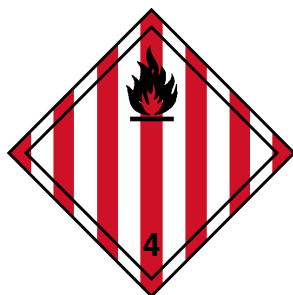
IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not applicable.

CNDG**SECTION 15 Regulatory information****Law of the People's Republic of China on Prevention and Control of Occupational Diseases****Classification of occupational disease hazards**

DUST FROM IRON AND ITS COMPOUNDS (CAS 7439-89-6)

Regulations on the Control over Safety of Dangerous Chemicals

Not regulated.

Regulations on Labor Protection in Workplaces Where Toxic Substances Are Used**Directory of Highly Toxic Substances**

Nickel (CAS 7440-02-0)

Provision on the Environmental Administration of New Chemical Substances**China Inventory of Existing Chemical Substances**

Country(s) or region	Inventory name	On inventory (yes/no)*
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

Other regulations

This safety data sheet conforms to the following laws, regulations and standards:

Measures for the Safe Use of Chemicals in Workplaces

General Rules for Preparation of Precautionary Labels for Chemicals (GB15258-2009)

Regulations on Labor Protection in Workplaces Where Toxic Products Are Used

Packing Symbol of Dangerous Goods(GB190-2009)

Regulations on the Control over Safety of Dangerous Chemicals

Safety Data Sheet for Chemical Products - Content and Order of Sections (GB/T 16483-2008)

Packing - Pictorial Marking for Handling of Goods (GB/T191-2009)

International regulations**Stockholm Convention**

Not applicable.

Rotterdam Convention

Not applicable.

Montreal Protocol

Not applicable.

Kyoto protocol

Not applicable.

Basel Convention

Not applicable.

SECTION 16 Other information**References**

EPA: AQUIRE database
GB6944-2012: Classification and Code of Dangerous Goods.
GB12268-2012: List of Dangerous Goods.
NLM: Hazardous Substances Data Base
US. IARC Monographs on Occupational Exposures to Chemical Agents

Further information

Transportation Emergency
Call Chemtrec at:
International: 703.741.5970
Spain: 900.868.538
Switzerland: 0800.564.402

Disclaimer

This document has been prepared using data from sources considered to be technically reliable and the information is believed to be correct. Materion makes no warranties, expressed or implied, as to the accuracy of the information contained herein. Materion cannot anticipate all conditions under which this information and its products may be used and the actual conditions of use are beyond its control. The user is responsible to evaluate all available information when using this product for any particular use and to comply with all Federal, State, Provincial and Local laws, statutes and regulations.

Other information

Revised information in Section 16.